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## UNIVERSITY AND EDUCATIONAL NEWS.

MRS. EMILY PRISCILLA EDGELL HUNT has bequeathed £5,000 to King's College School, London, for scholarships to be awarded for proficiency in practical sciences. She also bequeathed £1,000 to the benevolent fund of the Institution of Civil Engineers, and large sums to London hospitals.

SIR WILLIAM FRASER has bequeathed £35,000 and half the residue of his estate to the University of Edinburgh.

THE Edinburgh University Court has appointed to the new professorship of public health and sanitary science at Edinburgh University Dr. Charles Hunter Stewart, who for the past ten years has acted as chief assistant in the bacteriological laboratory connected with the chair of medical jurisprudence and public health in Edinburgh University.

## DISCUSSION AND CORRESPONDENCE.

## SCIENCE IN THE BUREAU OF EDUCATION.

DOUBTLESS a large number of the readers of SCIENCE have just received the first volume of the Report of the Commissioner of Education for 1896-97, and after remarking on its unusually prompt appearance have put it away unopened, to await some emergency in which its statistics may be useful. It may be desirable to call attention to the fact that this report is distinguished above its fellows by a most remarkable article on 'Recent Contributions of Biology, Sociology and Metallurgy to the Curriculum of Agricultural Colleges.' This forms Chapter 20 of the Report, pp. 923-1080. It is of the biological section that I wish to speak.

Considering that the article deals with 'recent contributions,' it is rather surprising to find the amount of space given to quotations from De Saussure and Liebig. But it is still more surprising to find that the author quotes with approval on p. 945 the statement of the former writer that "plants do not take all their mineral food out of solutions such as those which are artificially made, \* \* \* but they take them for the most part from compounds which we are unable to form, namely, out of such compounds in which these salts are chemically combined with oxygen, hydrogen, nitrogen and

carbon in humus extract, a fact that can only be revealed to us by an examination of the ashes of the plant." It would seem that the writer had never heard of water-cultures.

After giving quantitative proof (from de Saussure and Boussingault) of the absorption of CO<sub>2</sub> and the giving-off of O by green leaves, the remark follows, p. 929: "It is quite safe, then, to say that the leaf eats (so to speak) of carbon, and that indirectly it takes this from the air, though it must never be forgotten that the capital function of the leaf is, to use an expression necessitated by our ignorance, 'to elaborate' the sap. Why the leaf should act thus through a green substance it contains called chlorophyll has engaged the attention of many, but there is something about the question that stunts the growth of an hypothesis." (!)

"The root is an apparatus to absorb water. It is composed of three parts; a cap or penetrating point, a muff of fine hairs which follows close behind the cap, and finally an arm or the body proper of the root, which is at once an anchor, an alimentary canal and a pump." (p. 931.)

Apparently the Jews of the Education Bureau have no dealings with the Samaritans of the Department of Agriculture, or the writer would hardly have said that agrostology is the Gallic name for soil physics. And he might have found a zoologist to tell him that 'the substance resembling cellulose called tunicine' is not so called 'from its being found only in the mantle which covers the body of oysters and other mollusks.' He might also have been shown a specimen of growing yeast, and one of *Protococcus*, which would have kept him from evolving the 'diagrammatic sketches' of these plants on p. 971.

It is impossible to do justice to this writer without longer citations than SCIENCE probably can afford space for. I will simply mention some of the most striking passages. There is some fine confused reading in the account of the nitrogen question, on pp. 929-940, though Schloesing and Müntz, Hellriegel and Wilfarth, are quoted in some detail. The gem of the chapter is, however, the section on the life-process and instinct of the plant, and particularly the subsection on the 'development of the male cell (*i. e.*, pollen-grain) in the ovary,' from which it appears that "antecedent to the fecun-